

E250Cu – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition
Carbon (C)	≤ 0.23%
Manganese (Mn)	≤ 1.50%
Sulphur (S)	≤ 0.045%
Phosphorus (P)	≤ 0.045%
Copper (Cu)	≥ 0.20%
Silicon (Si)	≤ 0.45%

B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 250 MPa
Tensile Strength (TS)	410 – 540 MPa
Elongation	≥ 23%
Hardness	Not specified
Impact Test	Optional at room temperature (Charpy V-Notch)

2. Equivalent / Alternative Grades

A. Chemical Composition Comparison

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Cu (%)
IS 2062	E250Cu	≤ 0.23	≤ 1.50	≤ 0.045	≤ 0.045	≥ 0.20
EN 10025-2	S235JR + Cu	≤ 0.17	≤ 1.40	≤ 0.035	≤ 0.035	-
ASTM A36	A36	≤ 0.26	0.60–0.90	≤ 0.04	≤ 0.05	≥ 0.20 (min)

B. Mechanical Properties Comparison

Standard	Grade	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation / Impact
IS 2062	E250Cu	≥ 250	410 – 540	≥ 23%, Optional Impact @ RT
EN 10025-2	S235JR + Cu	≥ 235	360 – 510	≥ 26%, Not Specified Impact

ASTM A36	A36	≥ 250	400 – 550	20 – 23%, Not Specified Impact
-----------------	-----	-------	-----------	--------------------------------

3. Common Applications

- Construction (bridges, buildings, frames)
- Structural fabrication
- Railway wagons
- Industrial sheds and roofing
- General engineering components requiring improved corrosion resistance

4. Standard Conformance

IS 2062:2011 – Indian Standard for Hot Rolled Medium and High Tensile Structural Steel.

Grade Code Meaning:

- E: Killed steel
- 250: Minimum yield strength in MPa
- Cu: Copper added for corrosion resistance
- Optional impact tested at room temperature (Charpy V-Notch)

5. Disclaimer

All chemical compositions, mechanical properties, dimensions and other technical data presented on this page are provided by Raunaq Steels Trading Pvt. Ltd. for general reference only. While we endeavour to ensure that the information is as accurate and up-to-date as possible, no warranty, express or implied, is given as to its completeness, correctness or fitness for any particular purpose. Raunaq Steels Trading Pvt. Ltd. accepts no liability for any loss or damage arising directly or indirectly from the use of, or reliance upon, the information contained herein.

For authoritative and legally binding specifications, users must refer to the official publications of the relevant standards—such as the BIS, ASTM, EN or JIS standards—available through their respective websites or published documents.